REMARKS

Claims 1-24 are presently pending. The amended claims require that the dispersion comprises a lower alkyl methacrylate polymer and a solvent. These elements were previously optional. Additionally, the other previous optional components of claim 1, the metal carbonate, the white metal oxide and the rust inhibitor, have been deleted from claim 1. New claim 23 depends from claim 1 and is directed to the optional components of the metal carbonate, the white metal oxide and the rust inhibitor. Claims 1, 18 and 19 have been amended to include the additional limitation that the dispersion adheres to a substrate selected from the group consisting of a plastic, a metal and a composite when applied to said substrate as part of a primer. New Claim 24 recites alternatives for the plastic. These amendments are supported by the specification and claims as filed, see for example, paragraphs [0003], [0008], [0010], [0042], [0046], [0230], [0232], [0233], and [0236] of the published application (US 2008/0207810 A1), which correspond to the following sections of the published international application (WO 2005/0853341 A1): page 1, lines 16-22; page 2, lines 21-22; page 2, lines 28-32; page 5, lines 29-31; page 6, lines 13-21; page 31, lines 28-30; page 32, lines1-5; page 32, lines 6-13; and page 32, lines 27-29. No new matter has been added herewith. The following addresses the substance of the Office Action.

Obviousness

Claims 1-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Obie et al. (WO 01/35719) in view of Payne (Organic Coating Technology. Vol. I. "Oils, resins, varnishes, and polymers," Henry Fleming Payne, Wiley, New York; Chapman & Hall, London, 1954). Obie et al. discloses a wood stain formulation that comprises carboxymethyl cellulose, butyl benzyl phthalate, surfactants, calcium carbonate and titanium dioxide, the reference does not disclose alkaline earth metal salts of aliphatic acids. Payne et al. discloses metallic soaps, such as magnesium stearate, as flattening agents. Thus, the Examiner concluded that, in view of Payne, one having ordinary skill in the art would be motivated to modify Obie et al. by adding a metallic soap as a flatting agent.

Obie et al. Does Not Show Adherence to Substrates Other Than Wood

The Examiner remarked at the end of Item 7 of the Office Action that Obie et al. teaches adhesion to substrates other than wood such as tape and nickel. However, the Examiner is

mistaken. The tape and nickel tests of Obie et al. were done after applying a stain formulation to a wood substrate. In the "Tape Adhesion Tests," tape was attached to the stained wood and then pulled away from the wood to determine if the stain remained associated with the wood. In Nickel adhesion Tests, a nickel (i.e. a 5¢-piece) was scraped against a coated substrate to determine if the coating was removed. Thus, these tests related to adhesion of stain to wood and not to nickel or tape. Accordingly, there was no reason for one of ordinary skill in the art to believe that the compositions taught by Obie et al. would adhere to non-wood substrates such as PE (polyethylene), metal and composite substrates.

Evidence of Unexpected Results

The Examiner noted in the Office Action that "the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." However, unexpected results are strong evidence that refute any alleged *prima facie* obviousness. A Rule 132 Declaration by Mr. Gerard Short submitted herewith provides evidence that the presently claimed dispersions, which include an alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid, provide unexpected protection from filoform corrosion and provide unexpectedly superior adhesion to plastic, metal and composite substrates, while compositions prepared in accordance with the teachings of Obie et al. do not.

Referring to the Rule 132 Declaration by Gerard Short, the presently claimed dispersions, which include an alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid, were compared with compositions prepared in accordance with the teachings of Obie et al., which lacks an alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid. Accompanying Exhibits GS1-5 document weather testing using the dispersions and primers of the invention. Exhibits GS7-10 document field testing on various real world examples, such as, guns and planes. These Exhibits document the improved adhesion and weather resistance performance of the claimed invention over the prior art. Significantly, Exhibit GS-10 includes a direct comparison with a conventional coating system. Exhibit GS-11 is an endorsement from an aircraft owner to which the dispersion and primer according to the subject invention have been applied. Exhibits GS12-13 document further field testing and demonstrate some of the other advantages of the invention such as, decreased application time, saving on topcoat usage, increased corrosion protection, less product required and no need for an intermediate primer. Exhibits GS-14-16 show the painting of a PE (polyethylene) toy car using the dispersions and primers according to the invention. Exhibits

GS17-18 are copies of photos showing adhesion of primers according to the invention to plastic bull bars and marine buoys.

Tables 1 and 2 below summarize the compositions of dispersion as presently claimed and primers as described in the specification as filed and as utilized in the testing procedures referred to in Mr. Gerard Short's Declaration and accompanying Exhibits. The claims are amended to be commensurate in scope with the dispersions referred to as "First Chip-180/9101," "Modified Second Chip- 180/9020" and "Third Chip-180/9103."

Table 1 : Dispersion/Chip Composition

Amended Claim 1	First Chip – 180/9101	Second Chip – 180/9020	Modified Second Chip – 180/9020	Third Chip – 180/9103
Required Components				
Thermoplastic cellulose polymer or a derivative thereof	cellulose acetate butyrate	cellulose acetate butyrate	cellulose acetate butyrate	cellulose acetate butyrate
A phthalate ester of a C1-C6 alkylated aromatic alcohol	butyl benzyl phthalate	butyl benzyl phthalate	butyl benzyl phthalate	butyl benzyl phthalate
An alkaline earth metal salt of a C9-C20 aliphatic fatty acid	calcium stearate	-	calcium stearate	calcium stearate
a surfactant	tallowpropane diamine dioleate	tallowpropane diamine dioleate	tallowpropane diamine dioleate	tallowpropane diamine dioleate
lower alkyl methacrylate polymer	Plexigum N743	-	Plexigum 742 or Degalan 743 MEK	Degalan LP65/12
solvent	methyl ethyl ketone	methyl ethyl ketone and ethanol and isopropyl alcohol	methyl ethyl ketone and ethanol and isopropyl alcohol	ethyl acetate
Optional Components – one or more of				
metal carbonate	calcium carbonate	-	-	calcium carbonate
white metal oxide	titanium dioxide	titanium dioxide	titanium dioxide	titanium dioxide
rust inhibitor	-	-	-	zinc hydroxyl phosphate
Components Added to the Dispersion before use				
polyhydroxy magnesium silicate derivate[1]			Aerosil	
aromatic hydrocarbon[2] (primer solvent)			toluol and xylene	
halongenated polyolefin[2]			CP 343-3	

[1] Also a component of the Plastic Hi-Fill Primer.

[2] Also a component of the General Primer, White Primer, Metal Primer and Plastic Hi-Fill Primer.

Table 2: Primer Composition

Clear Primer	PCJ001 (Adhesion Promotor)	General Primer	White Primer	Metal Primer	Plastic Hi-Fill Primer	Mixing of Primers		
						1st Primer Solution	2nd Primer Solution	Combine 1st and 2nd Primer Solution
none		one or more chip	1st and 2nd chips	1st, 2nd and 3rd chips	1st and 2nd chips		+	
toluol and xylol	Toluol and Xylol	primer solvent	toluol and xylol	toluol and xylol	toluol and xylol	+		+
Plexigum N743 Degalan 65/12 Thermoplastic cellulose polymer or a derivative thereof		lower alkyl methacrylate polymer ethyl methacrylate Cellulose Acetate Butyrate	Plexigum N743 Degalan 65/12 Cellulose Acetate Butyrate	Plexigum N743 Degalan 65/12 Cellulose Acetate Butyrate	Plexigum N743 Degalan 65/12 Cellulose Acetate Butyrate	+		
methyl isobutyl ketone and methyl ethyl ketone		C_1-C_6 ketone	methyl isobutyl ketone and methyl ethyl ketone	methyl isobutyl ketone	methyl isobutyl ketone and methyl ethyl ketone		+	+
butyl acetate ethyl acetate Ethyl Ester		C_1-C_6 ester C_1-C_6 ester Ethyl ester	butyl acetate EEP	butyl acetate ethyl acetate EEP	Butyl acetate EEP		+	+
butyl benzyl phthalate		phthalate ester of a C_1-C_6 aromatic alcohol	butyl benzyl phthalate	butyl benzyl phthalate	butyl benzyl phthalate		+	
Replas 150		polymeric plasticizer	Replas 150	Replas 150	Replas 150			+
CP 343-3	CP153-2 halogenated polyolefin	halogenated polyolefin	CP 343-3	CP 343-3	CP 343-3			+
	Elvax 260 Co-polymer of alkene vinyl ester				an alcohol – butanol			+
					thermoplastic polymer – CAB-381-2			+
					polyhydroxy magnesium silicate derivative – talc (CAS No. 14807-96-6)			+
					silicon dioxide power – Acematt OK 412			+

Referring to Mr. Gerard Short's declaration, the presently claimed dispersions, which include an alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid, were compared with a composition prepared in accordance with the teachings of Obie et al., which lacks an alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid. Referring to Exhibit GS-10, a comparison test examined protection from filiform corrosion of surfaces of a seaplane coated with either a conventional aviation primer or a primer that contained a dispersion as presently claimed. Filiform corrosion is a type of localized corrosion that is often associated with aluminum and magnesium alloys that have an organic coating, such as paint. Surfaces coated with a primer containing a dispersion as presently claimed showed no significant formation of filiform corrosion, while surfaces coated with conventional primer showed significant filiform corrosion. Such protection was even observed on aluminum floats of seaplanes, which are ordinarily the most susceptible part of an aircraft to filiform corrosion.

Referring to Exhibit GS-11, Steve Krug, who wrote an endorsement of primers that contain a dispersion as presently claimed, states:

> "The non-hydroscopic nature of the primer (meaning that it does not absorb moisture) makes it a natural choice for marine environments and aviation purposes."

Referring to Exhibits GS-12 and GS-13, Filiform corrosion of aluminum vessels is prevented by applying a primer that contains a dispersion as presently claimed.

Mr. Short states in his declaration:

> "Surprisingly, the effect of the alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid in the present invention is to generate hydrophobic properties in a primer comprising the dispersion. In this way the alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid of the dispersion is directly responsible for superior water and corrosion resistance in the primer."

While a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results, based on the prior art, there would have been no reason to believe that combining an alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid with a dispersion, as presently claimed, would lead to the unexpectedly superior water and corrosion resistance (e.g., resistance from filoform corrosion as shown in Exhibits GS-10, GS-12 and GS-13).

Referring to Exhibits GS-14, GS-15 and GS-16, coating of a polyethylene (PE) replica ride car for children was tested using a primer that contained a dispersion as presently claimed.

While coatings with conventional primers and coatings did not adhere to PE, the Plastic Hi-Fill primer, which is according to the present invention resulted in 100% adhesion. Prior to the provision of the primers and dispersions of the invention, it was not possible to adequately paint PE. Thus, adequate bonding of paint to a PE toy car was not possible with primer-paint systems that lack an alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid. The comparisons provided in Mr. Short's declaration demonstrate that the presently claimed dispersions adhere to substrates such as polyethylene, metal and composite substrates but that composition prepared in accordance with the teachings of Obie et al. do not adhere as well to these substrates.

Prior to the present application, there was no reasonable expectation that using an alkaline earth metal salt of a C9-C20 aliphatic fatty acid in a dispersion as presently claimed would generate a primer with improved water and corrosion resistance and that would adhere to a plastic, metal or composite substrate. Based on the combined teachings of the cited references, there was no reason to believe that inclusion of an alkaline earth metal salt of a C_9-C_{20} aliphatic fatty acid in the dispersions would yield such results. Thus, the unexpected results provide strong support for the patentability of the presently claimed dispersions.

Reference in the Specification as Filed to Marked Improvements of the Disclosed Dispersions

In addition, Applicant wishes to reiterate that the specification as filed notes the marked improvement of presently claimed dispersions over the prior art as follows:

1) the present claimed invention is suitable for application to PE (polyethylene), metal and composite substrates (see page 32 lines 1-2 and page 32, lines 27-29 of the subject specification);
2) the present claimed invention has excellent adhesion (see Example 6, pages 30-31 of the subject specification);
3) the present claimed invention has excellent adhesion after accelerated weather testing (see Example 6, page 31 of the subject specification);
4) the present claimed invention has excellent integrity in field testing (see Example 6, page 31 of the subject specification); and
5) the present claimed invention may be applied to existing PE substrates and need not be incorporated at the time of article manufacturing, i.e., they may be applied to existing goods.

In view of the amendments to the claims, the evidence of unexpected results and the preceding remarks, the presently claimed dispersions are not obvious in view of the cited prior art. Accordingly, the Applicant respectfully requests that the rejection under 35 U.S.C. § 103(a) e withdrawn.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

CONCLUSION

In view of Applicants' amendments to the Claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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